

Claims

1. A method of DC compensation for a direct conversion radio receiver, comprising the steps of:
 - 5 determining the modulation extremes of a received modulated signal;
 - determining a DC offset for the signal from the modulation extremes; and
 - processing the signal to compensate for the offset.
- 10 2. A method according to claim 1, comprising determining the DC offset as substantially the mean of the signal amplitude at the modulation extremes.
3. A method according to claim 1, wherein the step of processing the signal comprises subtracting the offset from the signal.
- 15 4. A method according to claim 1, wherein the step of processing the signal comprises subtracting a weighted exponential function from the signal.
5. A method according to claim 4, wherein the weighting of the exponential function comprises the determined DC offset.
- 20 6. A method according to claim 1, wherein the receiver has an effective filter characteristic representing its frequency response, further comprising applying the inverse filter characteristic to the signal.
- 25 7. A method according to claim 6, including determining the modulation extremes from the inverse filtered signal.
8. A method according to claim 1, wherein the signal comprises an in-phase component of a modulated signal.
- 30 9. A method according to claim 1, wherein the signal comprises a quadrature component Q of a modulated signal.

11. A computer program which, when run on a processor, carries out the steps of claim 1.

12. A direct conversion receiver comprising:

- means for determining the modulation extremes of a received modulated signal;
- means for determining a DC offset for the signal from the modulation extremes;
- and

13. A receiver according to claim 12 having an effective filter characteristic representing its frequency response, further comprising inverse filter means to compensate for the filter characteristic.

14. A program to be executed by a digital signal processor in a direct conversion receiver, the receiver comprising a mixer circuit for providing quadrature related signals from a received modulated signal, a dc cancellation circuit for cancelling the dc component in the quadrature related signals and a digital signal processor for removing a residual dc component from the signals, said program being configured to cause the digital signal processor to determine the modulation extremes of the signals, to calculate a dc offset for the signals from the modulation extremes and to process the signals to compensate for the dc offset.